LABORATORY AND PULPIT

W. L. POTEAT

Laboratory and Pulpit

THE RELATION OF BIOLOGY TO THE PREACHER AND HIS MESSAGE

The Gay Lectures, 1900

BY

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To My Wife

NOTE

THE Gay Lectureship was established in the Southern Baptist Theological Seminary, at Louisville, Ky., in the year 1893, by Rev. William D. Gay, of Montgomery, Ala., as a memorial of his father, Mr. Julius Brown Gay. Three lectures each year are provided for. The founder does not specify the general subject of the lectureship. The Faculty of the Seminary name the lecturer and the subject.

The three lectures following were given in Norton Hall, Louisville, March 20, 22, and 23, 1900. They are printed here as they were delivered, except that a few notes are added, and the paragraph near the close of the last lecture and beginning "If it be objected," was in the delivery omitted on account of the pressure of time.

I gratefully acknowledge serviceable suggestions made to me by my friends and colleagues, President C. E. Taylor and Professor Benjamin Sledd.

W. L. P.

INTRODUCTORY

You've seen the world—
The beauty and the wonder and the power,
The shapes of things, their colors, lights, and shades,
Changes, surprises—and God made it all!

—*Browning, "Fra Lippo Lippi."*

Mr. President and Gentlemen:—Give me leave to say a word or two of general introduction.

The first must be an allusion to my pleasure in greeting you here and my appreciation of the opportunity to confer with you about things of importance to our Christian faith and work.

You have called me from the biological laboratory to the seminary pulpit. For a number of years—I dare not say how many—I have occupied myself with that particular science which is chiefly responsible for the new expression on the countenance of our intellectual life; and now I find myself for the time in the most influential of pulpits—for it is the preachers of to-morrow who fill the pews before me. What is most revolutionary in science stands face to face with what is most precious in religion. I adopt the suggestion of the occasion, and propose as the general subject of these lectures "Laboratory and Pulpit," or the Relation of Biology to the Preacher and his Message.

I need hardly remind you that this is no light matter. It is a matter of foundations. These are some of the questions which it raises: Is the universe intelligible? Are human reason and con-

sciousness reliable? or is the natural order a cunningly devised scheme of illusions for our systematic deception? Are the intuitions of the human spirit trustworthy? If so, are the God whom the intellect finds in nature and the God whom the heart finds in its own longings two Gods at war with each other, or one? The vague sense of tension and misgiving which still pesters many devout minds whenever science intrudes upon religious reflection, drops here its ghost habit of momentary apparition; it takes body before us and insists upon definite examination. The covert or open detraction of science and men of science by some who hold the public ear and speak in the name of Christianity, presents itself in our subject, and asks to be justified. In the presence of so grave concerns we must use our best endeavors to see clearly, to think straight, and to hold by the truth at all hazards. You will allow me, I know, to be frank and faithful to the truth as I apprehend it. Any other attitude would be nothing short of impiety.

I feel acutely the gravity of the task which I have undertaken, especially in view of the fact that we are in a period of transition, more distinctly so, perhaps, in our conservative South than in some other quarters; and it is of this transition that I purpose to speak. Now, all transitions are

perilous. One morning, on our Atlantic coast, I was watching a crabber assort his catch for the hotel steward. He handed me a crab, saying, "That's a buster," by which he meant a crab in the act of bursting his old shell with a view to drawing himself out of it and growing a new and larger one. The fisherman added, "Many of 'em dies before they git through." It is so in the human world. Our old habits, of body, mind, spirit, are at once our comfort and our safety. To break their protecting shell for a new one is not only painful, it exposes us the while to thronging perils. And yet the repeated passage from a limited to a larger life is one of the conditions of life itself. We must grow to live. In such a period, when "the old order changeth, yielding place to new," it is easy to misplace the emphasis, to appear radical and offend against the worthy sentiment which yet clings to the old, and on the other hand to appear weak, if not cowardly, to a mind which has already made the transition successfully. Moreover, in the effort to facilitate the inevitable transition, it is possible that one may, in some cases, simply cause the old exo-skeleton to pinch; one may infuse a disintegrating doubt through the body of long-cherished opinions, without being able to impart the impulse and principle of a new and vitalizing reorganization.

There is yet another danger lying in wait for the unguarded enthusiasm of such a time as this of lengthening vistas and lifting skies. I mean the danger of the dogmatic accent. With all our theological logomachies for many bitter centuries, with all our conquering science, we look out to-day from our little sphere of light upon unanswering mystery in every direction. A sober speech and the garment of humility become us. A more ignorant age might be dogmatic; not so this.

You will, of course, understand that I speak as a student of science, not as a theologian; and you will, perhaps, allow me in that rôle a point of view and a terminology that are scientific rather than theological. And if in this discussion I "line up" with the progressives, I shall be only extending to a detail of our life the law of progress which I find writ large on the face of universal nature. Do me the favor to interpret individual expressions of opinion in the light of the general discussion only. While I dare not look for the unanimous acceptance of the message which I bring you, I do venture to hope that it may be serviceable even in the cases of its rejection; for, as Professor Sanday reminds us, all sound and permanent progress is the resultant in public opinion of the action of both sides in controversy. In any case, when I have done, you will be able to say to me what a Turkish cadi

said to an inquisitive English traveler: "Oh, my lamb! seek not after the things that concern thee not. Thou camest unto us, and we welcomed thee: go in peace. Of a truth thou hast spoken many words, and there is no harm done, for the speaker is one, and the listener is another."

LECTURE I

THE BIOLOGICAL REVOLUTION

Behold, I create new heavens and a new earth : and the former things shall not be remembered, nor come into mind. But be ye glad and rejoice forever in that which I create.

—Isaiah, 65: 17, 18.

And he that sitteth on the throne said, Behold, I make all things new. And he saith, Write ; for these words are faithful and true. And he said unto me, They are come to pass.

—John, Revelation 21 : 5, 6.

The sun-awakened avalanche ! Whose mass,
Thrice sifted by the storm, had gathered there
Flake after flake, . .
As thought by thought is piled, till some great truth
Is loosened, and the nations echo round,
Shaken to their roots, as do the mountains now.

—Shelley, "Prometheus Unbound."

I

An interesting passage in the "Conversations of Goethe" occurs under date of August 2, 1830, the day on which news of the July Revolution in Paris—"the glorious days of July"—first reached Weimar. In the afternoon Soret visited the aged poet and man of science, and found him intensely excited. Goethe exclaimed as he entered, "What do you think of this great event? The volcano has come to an eruption; everything is in flames!" Soret confessed that it was a frightful story, but suggested that nothing better was to be expected under so bad an administration. "You do not understand me," said Goethe. "I am not speaking of those people. I am speaking of the contest, so important to science, between Cuvier and St. Hilaire, which has come to an open rupture in the Academy"—a contest which we know gained for Goethe's evolutionary conception of organic nature a powerful and permanent ally.

We may grant that Goethe had at this period but a languid interest in European politics, and was not likely to rate at its proper value the triumph of constitutional liberty in France; but

this is no detraction from his high estimate of the contemporary revolution which was working its way to success in the halls of French science. After all, was he not right in placing the emphasis here? Is it not precisely the revolution in the laboratory or the study which produces the revolution in the street? "The Biological Revolution" which I hope to sketch now is such a revolution in mental attitude and outlook—the same, indeed, which, so early as 1830, Goethe saw crowding to its inevitable consummation.

As we take up this single thread of inquiry, we need to remind ourselves that the physical sciences are one and indivisible. For satisfactory reasons we mark them off from one another as physics, chemistry, and biology, and sub-divide each of these to what I fear is sometimes a dangerous extreme. But their boundaries touch, indeed shade into each other; they are interdependent and organically united. Their ultimate aim and the methods by which they seek it are everywhere the same. I beg you, therefore, to bear in mind that, while I speak of biology only, its own progress and its distinctive achievements, whether in the increase or the recasting of our intellectual possessions, would not have been possible without the simultaneous advance and the co-operation of its worthy confederates.

I. THE DEVELOPMENT OF BIOLOGY.

The year 1860 may be regarded as the birth-date of biology in the modern sense of that science. It is true that even from the time of the wise king of Israel living things had been observed in more or less of the scientific spirit. From Aristotle onward, treatises still extant made their appearance with increasing frequency and fullness of biological material and a diminishing modicum of myth, down to the middle of the present century. This work was important and, for the most part, creditable to the workers. But its importance was mainly that of bringing together the materials of the coming structure, of preparing the way for the noble science which would relate and systematize this collection of facts.

The year 1838 is a memorable one in biological annals, for a stage was then reached which conditioned all subsequent development. The German botanist Schleiden reached in that year the generalization that the structure of plants is made up of minute individual portions, which he called "cells"; and, further, that the observed diversities of these cells are but the typical forms progressively modified during the growth of the plant. One day at dinner, while he was talking on this subject with his friend Schwann, the physiologist,

the latter seemed to recall a trace of the same architecture in certain animal structures. Schwann went away to test the suggestion, and from his voyage of discovery he returned the next year with spoils which extended to the world of animals the cell structure demonstrated in the world of plants.

Brilliant as was this achievement of the cell theory, its joint-founders paid little attention to what we now know to be the essential part of their "little vesicles," or boxes, namely, their fluid contents; they mistook the mode of cell formation, and failed to perceive the nature and powers of the cell substance. But these matters were taken up by other men, and constitute even to-day the most fascinating field of biological research. In 1846 Von Mohl, observing the uniform character of the cell substance, deemed it worthy of a specific name, and said, It shall be called "protoplasm." About four years later, Remak and Cohn declared that this protoplasm of the plant cell was identical with the substance of the animal cell, to which the name "sarcode" had been applied. But the distinction of demonstrating in detail this identity was reserved for Max Schultze, in 1860.[1]

At the same time with this study of the minute structure of living beings, but quite independently

[1] See O. Hertwig's "The Cell," Introduction, and Sachs' "History of Botany," Chap. IV., for historical details.

of it, another line of inquiry was pressing forward to the establishment of another epoch-making doctrine. I refer, of course, to the doctrine of evolution. This inquiry had slight need of the microscope. It concerned itself merely with the gross anatomy, relationships, and distribution of animals and plants. The field, not the laboratory, was its theatre. Its beginnings lie far back in the pre-Christian centuries. It takes its rise, indeed, contemporaneously with the first efforts of the Greek physicists, in the sixth century before Christ, to substitute a natural for the mythological explanation of things. Inasmuch as during the Middle Ages the church was the guardian of all learning, we should expect to trace the continuation of this conception through the Christian theologians; and, accordingly, Gregory of Nyssa in the fourth century, Augustine, the father of the Latin theology, in the fifth, Thomas Aquinas in the thirteenth, and Bruno in the sixteenth, stand forth in the honorable succession of the Greek philosophers as custodians of the evolution idea. From this point allusions multiply and expand into discussions, and some of the philosophers, as Leibnitz (1646–1716), pass from noting the gradations between animal species to apply the evolution principle to the sum of things.[1] But the

[1] *Cf.* Osborn's "From the Greeks to Darwin," p. 69–83.

most important name from Aristotle to Darwin is Lamarck, whose "Philosophie Zoologique," published in 1809, is the first elaborate exposition of the means, or factors, of evolution as applied to the origin of living forms. Twenty years later he died in extreme poverty and total blindness, bearing the heavier burden of social and scientific ostracism on account of his transmutation theory. Let us hope that he found solace in anticipating the verdict of the centuries against the years. Certainly he is now come into his reward, for a school of biologists, with no less a figure than Herbert Spencer at their head, is to-day called by his name.[1]

Lamarck proffered the gage in such terms as enforced its acceptance, and from his time naturalists were divided on the question whether the higher organisms were derived by descent, with modification, from the lower. There were warm debates among them, as that in the French Academy which stirred Goethe so deeply,—debates which continued with varying fortunes down to

[1] In his address to the French Association for the Advancement of Science, in 1889, President Duthiers said: "Our illustrious compatriot has been treated rather unjustly and severely. There are whole pages in the works of Lamarck containing the theory of transformation completely developed, to which Darwin has added nothing except to confirm them." See "Popular Science Monthly," 36 : 23, 24.

the publication of the "Origin of Species" by Charles Darwin, in 1859. That splendid product of a great mind brooding for years on an enormous mass of facts, practically closed the question and won at once the almost unanimous assent of the naturalists of the world.

These two generalizations—the protoplasm theory, comprehending in one view all animal and plant structures, and the evolution theory, unifying them in the mode of their origin—constitute the foundation of modern biology. They grew apart, but came to full age at practically the same time, and together made an epoch.[1]

It appears accordingly, that biology is one of the youngest in the sisterhood of the sciences. The extreme complexity of its subject-matter delayed its development. It had to wait, moreover, upon the improvement of its great instrument, the microscope, and of microscopical technique. But when it did present itself at last, with wide eyes and the mien of organized victory, it compensated for the lateness of its coming by the stir which it made. It precipitated a revolution which is hardly yet composed in the new equilibrium.

But before we undertake to catch some echoes of this revolution, we shall do well to observe more

[1] *Cf.* Wilson's "The Cell in Development and Inheritance," Introduction.

particularly the content and scope of biology. The rehearsal of matters familiar to many of you may perhaps be justified by the point of view which we gain by it.

II. THE CONTENT AND SCOPE OF BIOLOGY.

1. *The Cell.*—Biology is the science of the phenomena of life. Of course, life phenomena are exhibited in both plants and animals, which alike supply material to the biologist's hand. Whether his specimen fall in the plant or animal series is often a secondary question and need not be raised. Further, he may select it indifferently from this or that group of either series. In short, he is primarily concerned with living matter,—protoplasm,—that "physical basis" apart from which, in the present order, the phenomena of life never emerge. And, since protoplasm always occurs in individual masses for which the name "cell" is still retained, the biologist may be said to occupy himself first and last with the cell. Now, with very few exceptions, cells are too small to be seen with the naked eye. Many of them require the higher powers of the microscope to bring them within the range of vision. "Poor biologist!" you will say. "What limitation of horizon! what contraction of interests!" Excuse me if I say that this sympathy is more creditable to your generosity than ap-

propriate to his need. The thought of Tennyson is truer. In the familiar lines to the little flower which he held in his hand he says:

> *If* I could understand
> What you are, root and all, and all in all,
> I should know what God and man is.

The biologist concentrates still further. Fixing attention upon any one of the myriad cells which compose the structure and do the work of the little plant of the crannies, even of that tiny world he might use the language of the poet. For the cell is the miniature of nature. It is the focus where all her forces meet to do her finest work. And if ever we come upon that elusive wizard, Life, he will be found hiding amid the intricacies of this microscopic bit of protoplasm. Life is Nature's goal and crown. Her struggle upward out of war and night, her wistful brooding for ages on the insensate elements, all her storm and travail find their reward when life first rises to view. It is lodged in the veriest atomy of a cell. It is frail and poorly equipped. But she takes the nursling to her bosom, warms and guards it, feeds it with opportunity, establishes and diversifies it with struggle, until alga and moss and rose, infusorian and insect and bird and man respond to her mother-yearning from every nook of her wide domain.

Though so exquisite in the complexity of its architecture, though so refined in its substance, the cell cannot break with its past. I own, its "dust" lineage is ineffaceably written in the symbols of its chemical composition. It is ordinary matter in the living state for the time. On the other hand, it has an upward look toward that which, in the rude classifications of our ignorance, we call the antithesis of matter—mind. It runs a track closely parallel to that of consciousness, within speaking distance and the range of reciprocal influence. The cell supplies the labyrinthine pathways over which thought flashes, and is sensitive to its most ethereal and transient contact.

It must be apparent that the biologist stands at the heart of things. The sciences which deal with the forces and properties of lifeless nature run rapidly up to their highest elaboration in the science of living nature. All the other sciences, not excepting even the purely formal and abstract science of mathematics, owe their development, if not, indeed, their subjective foundations, to the marvelous capacities of protoplasm. The problems of philosophy, the mother of sciences, are at bottom biological problems, for its quest is nothing more than the explanation of the phenomena of life.

2. *Evolution.*—But the second conception men-

tioned as fundamental in the content of modern biology is even more widely connected than the protoplasm conception. Indeed, there is no single object or phenomenon which is independent of the process of evolution. That process is not rightly conceived as an agent; it is only the method of God's operation. It is the method of becoming. The present is the child of the past, whether we think of the individual organism, the tribe, the race, the earth on which it lives, or the sun which energizes all. History is not a succession of events or stages, as of links in a chain, having no other relation than that of contact. The antecedent events or stages are, in part at least, the causes of those which follow. The endless variety of plant forms which brighten and beautify our world has arisen by descent, with modification, from more and more simple forms through long ages. The same law of gradual growth is established in the realm of mind also. As we go upward along the scale of organized life, the nervous system acquires increasing complexity, and distinctively mental traits emerge into greater and greater prominence, until we arrive at the highest term of this wonderful series, the mind of Plato or of Shakespeare. Take another step and see the same law obeyed in the multiform activities in which the human mind expresses itself. Thomas Hobbes said that the

great "Leviathan," the Commonwealth or State, was but an artificial man constructed by human skill. We now know that individual men could no more construct a State than they could originate themselves. "Constitutions are not made; they grow." Throughout all its ramifications, in its main outlines and its minutest details, society is a growth, not a manufacture. And that highest function of mind—its response to the call of the universal Spirit who guides this progress and supplies the energy of this upward tendency to a foreseen goal—religion itself has developed out of rude and germinal beginnings.

> Out of darkness came the hands
> That reach thro' nature moulding men.

And the love which moved those hands spoke to man's growing capacity as soon as it could hear, and in the syllables and tones which it could apprehend. The revelation of God has been of necessity progressive as being conditioned by the stage of culture which received it. You may now read the evolution of religion in Brinton, Andrew Lang, Max Müller, and Edward Caird. And it seems more than hinted at in those great chapters, the first of Romans and the first of John.

I do not hesitate to say that the blessing of this new view is beyond appraisement. The new

heavens of Isaiah already draw out of the deep to roof us in; we open our eyes on the new earth. Nature is conceived of no longer as static, but as dynamic and vital,—stands transfigured before us with the radiance of God's manifest presence. The intellectual satisfaction of finding unity and harmony in the place of the most distressing confusion is a superlative advantage. We have here important light on "this dread machinery of sin and sorrow," the problem of evil, which has clouded our sky, dragged heavily upon our aspirings, and often mocked into inactivity our best endeavors with prophecies of defeat. Besides, in hearts that are crushed under the meaninglessness of life, a great hope is born of the vision of a goal which explains and justifies the long and painful path behind us, as well as the perplexities and antagonisms of the present hour. Nature's "eternal enterprise" becomes one with our own ideals.

But our debt to biological evolution is not all told in this catalogue of blessings. It has been a guide and stimulus to research in all departments of inquiry. Prof. Huxley was altogether right in saying that the most potent instrument for the extension of the realm of natural knowledge which has come into men's hands since the publication of Newton's "Principia," is Darwin's "Origin of Species." Even in the sciences of inorganic na-

ture, indeed in spheres not distinctively scientific, the influence of the biological method has spread as a veritable "elixir of life," and philosophy, law, history, art, language, and literature have been born again in the impact of the evolution idea.

III. REVISION.

It is not surprising, therefore, it was indeed inevitable, that this young life science, with its universal relations and its ramifications down to the roots of things, should impose the necessity of revision upon every formulated body of doctrine, whether physical or metaphysical, observational or intuitional. Here is the source of the tremendous energy which, in the last forty years, has burst in upon every branch of knowledge with the thrill of new vitality. Please consider some examples.

1. *Psychology.*—The new psychology is differentiated from the old, not so much by the extension of knowledge in the realm of mind, though this has been great, as by the reorganization of this knowledge from the view-point of the two basal doctrines of biology,—the doctrine of the cell and the doctrine of evolution. Accordingly, the psychology text-book of to-day begins with the structure, physiology, and growth of the human nervous system, with a glance backward and down-

ward at the corresponding mechanism in the lower ranges of life. Whatever may be one's conception of the relation of the thought process to the nerve process, it is certain that, in the present order, a change in the one records itself in the other; a brain lesion advertises itself in a mental defect. The cell, with its tree-like branchings and interlacing contacts, is the apparatus of the magician. If it is weak, the magician is weak. If its connections are scant and uncertain, the magician stammers; if they fail, he is mute. So controlling has this physiological view and method become, that it has recently seemed to be necessary to assert with special insistence the relevancy and importance of the data given in consciousness and the legitimacy of the method of introspection.

2. *Sociology.*—It is but a step from psychology to sociology. Indeed, sociology is applied psychology in its social aspects. It is true that glimpses of the dependence of sociology upon biology were caught by Hooker in the seventeenth century, and more clearly by Comte about the middle of the present century; but it was reserved for the author of the "Synthetic Philosophy" to write, in 1873, a detailed exposition of the truths contributed by biology for the science of sociology.[1]

But the question has been raised whether we

[1] Spencer's "Study of Sociology," Chap. XIV.

are warranted in speaking of the "science of sociology"; is the sociology of to-day an exact science? In any case, it is certain that the new sociology is organizing itself more and more completely upon the basis of the biological sciences, and so growing more and more distinct from the sociology of the early part of the century, which made its appeal to the mathematico-physical group of the sciences. It is coming to be generally and practically recognized that, in the study of human society, we are merely dealing with the highest phenomena presented in the history of life. A representative of the new school studies in London colonies of bees and ants as a part of his preparation for his work on "Social Evolution." The biologist is pressing over the artificial boundary set by an earlier day to his proper territory; he is carrying his principles and methods into the social sciences, whose subject-matter is still life phenomena, only life in its most complex manifestation. As Spencer says, the human being is at once the terminal problem of biology and the initial factor of sociology.

The factors here are numerous and difficult to measure. The facts have not all been noted; they certainly have not been duly co-ordinated. And yet some things seem already clear. It may be worth while to mention two or three of them.

The first, which relates to our ignorance, is, that social questions cannot be determined by majorities, any more than physical or chemical questions. Was it Matthew Arnold who said that, in such matters, the minority is always right? A second deduction from the biological conception of sociology is, that the cry of the socialist, whether Christian or scientific, for the suppression of the individual and the elimination of competition, or the struggle for existence, as a factor in social development, is against nature and, therefore, doomed to failure. Again, religious beliefs are, in the new sociology, given the place of paramount importance in the origin and evolution of all social aggregates of whatever grade of organization. In the case of that complex product, Western civilization, Christianity is certainly its distinctive mark and explanation. Under its influence the individual has acquired personality and gradually come into his estate of equality of right and of opportunity; the conditions of the life struggle have been softened without impairment of its action for social efficiency; and it seems not unscientific to hope that the same agency, co-operating with other social factors, will resolve the problems that perplex us now, correct the unnatural inequalities, and relieve the distresses of our present social state. Our hope is in the organic spread of the

spirit and teaching of Jesus, not in an act of Congress.[1]

3. *Literature.*—If there were time, it would be easy to trace in detail the marks of the biological revolution upon the higher forms of the literature of our century. There was at first—I use the thought order where of course the time order cannot be followed—a positive revulsion at "the demonstrable fact" of science, which seemed to Keats and Ruskin, for example, to break imagination's wings, and to destroy the beauty of the world by dissecting it. Then came pessimism at sight of "Nature red in tooth and claw with ravine," and the deep tragedy of life palpitating in the grasp of inexorable law. It often shadows the brow of Tennyson, and is the characteristic note of Matthew Arnold and of "the scornful yet terrified" author of "Manfred" and "Don Juan." The complete surrender to the scientific impression is seen in the naturalism of Zola and Thomas Hardy, who frankly accept and utilize the new knowledge, making it into the bricks and mud of the once regnant but now decadent realism. Then follows the transfiguration of nature, as in Richard Jefferies, George Macdonald, and Watts–Dunton. The final stage of adjustment and response is reached when genius

[1] *Cf.* Benjamin Kidd's "Social Evolution," Chap. IV. and V., and H. S. Nash's "Genesis of the Social Conscience," *passim.*

awakes to the new material and method which science lays at its feet, and is kindled into triumphant faith and optimism by the wide vision of evolution. That is precisely the distinction of Robert Browning. It is interesting to observe that this issue was divined by Wordsworth's infallible insight at the beginning of the century. In the Preface of the "Lyrical Ballads" (1800) he wrote: "Poetry is the breath and finer spirit of all knowledge; it is the impassioned expression which is in the countenance of all science. . . . If the labors of men of science should ever create any material revolution, direct or indirect, in our condition and in the impressions which we habitually receive, the poet will sleep then no more than at present; he will be ready to follow the steps of the man of science, . . carrying sensation into the midst of the objects of the science itself."

4. *Ethics.*[1]—Every stage in the historical development of ethical inquiry, from its origin with the Greek Sophists down to to-day, is marked by the effort to formulate a rational system of morals in harmony with the general body of current opinion and sentiment. The marvelous extension of natu-

[1] This section is mainly an abstract of the author's paper on "The Physiological Basis of Morality," given before the Baptist Congress, at Providence, R. I., in 1895, and published in its Proceedings.

ral knowledge which characterizes the latter half of our century enforced a fresh examination of the foundations of morality from the new standpoint. The first serious treatment of the origin of the moral nature in accordance with the new knowledge, appears to have been made by Mr. Darwin in "The Descent of Man," published in 1871. It is well known that he derived the moral nature, as well as the body, of man from the lower animals. He traces it to the social instincts of savages and gregarious animals, which become progressively more assured of survival in proportion to the perfection of these instincts of obedience, co-operation, and sympathy. This suggestion was adopted and elaborated into the system of the "Scientific Ethics," by Prof. Clifford, Mr. Herbert Spencer, Mr. Leslie Stephen, and later by Mr. Sutherland. Its value consists in its having sketched the history, not of morality, but of the physiological basis of morality. It traces the development of the apparatus of the moral nature. It exhibits the external aspect of moral progress. The weakness of this physical theory lies in its claim to be a complete account of the moral nature itself. For moral ideas, while correlated with material changes, are totally distinct from them.

What may be called the Neo-Christian theory corrects and supplements the physical. It is a re-

statement of the Christian conception from the view-point of evolution. Let us understand at once that an intellectual account of the moral nature cannot impair or imperil the binding force of its decrees in the practical guidance of life. The question how or where we came by it neither modifies its character, nor invalidates our actual possession of it. For the Neo-Christian theory, therefore, conscience is still conscience, though it is the result of the process of development; for the modern man, at least, it is still innate and intuitive, and speaks with the authority of the voice of God. Nor does the content of the Christian morality suffer at the hands of the new moralists. They accept the derivation of man's body from the lower organic series. They discover protoplasm about the root of the moral nature itself, but deny that the moral nature is, on that account, protoplasmic. They hold that sensation elaborated in the progress of development, and ancestral experience organized into intuitions, are merely the vehicle of the moral nature, which on its part is able to take on higher forms as its apparatus becomes more adequate. If life depends upon the correspondence between the organism and its environment, certainly the successive additions in a developing life are not the unfoldings of what lay diminutive and dormant in the germ, but are sup-

plied to it by the environment. Now, God is the proper environment of the growing ethical nature. His hand is on the organic process, and as with his energy and nourishing it rises into higher planes, he can put into it more and more of moral and spiritual significance until it reaches a point where it is altogether meaningless apart from the nobler nature which he has grafted upon it. And so we conclude with Paul, "First, that which is natural; then, that which is spiritual."

LECTURE II

THE NEW APPEAL

I have yet many things to say unto you, but ye cannot bear them now. Howbeit when he, the Spirit of truth, is come, he shall guide you into all the truth : for he shall not speak from himself; but what things soever he shall hear, these shall he speak. . . He shall glorify me : for he shall take of mine, and shall declare it unto you. All things whatsoever the Father hath are mine : therefore said I, that he taketh of mine, and shall declare it unto you.

—Jesus, John 16 : 12–15.

There are two books from whence I collect my divinity. Besides that written one of God, another of his servant nature, that universal and publick manuscript, that lies expansed unto the eyes of all. Those that never saw him in the one have discovered him in the other.

—Sir Thomas Browne, "Religio Medici."

Second Speaker, as Renan.

Dwindling into the distance, dies that star
Which came, stood, opened once ! We gazed our fill
With upturned faces on as real a Face
That, stooping from grave music and mild fire,
Took in our homage.
. . . Awhile transpired
Some vestige of a Face no pangs convulse,
No prayers retard ; then even this was gone,
Lost in the night at last.

Third Speaker.

That one Face, far from vanish, rather grows,
Or decomposes but to recompose,
Become my universe that feels and knows !

—Browning, Epilogue to "Dramatis Personæ."

II

If in the first lecture theology was not mentioned among the examples of revision in accordance with the data of biology, it was only because I deemed it worthy of more detailed consideration in view of your direct concern with it, and because I preferred to make no breach in the natural group of subjects which constitute the preacher's special province. In this lecture accordingly, these subjects are to go together through the laboratory on their way to the pulpit, while we note the new complexion and accent which they acquire and the new appeal which they then make to the new time.

Let us at once assure ourselves of two things: first, that these matters, by their very nature invite such an examination as we propose; second, that whatever its issue may be, what is vital in the Christian experience will remain unaffected by it. For you will observe that theology is one thing and religion quite another. While they are habitually associated and often, with the most disastrous consequences, have been identified in thought, in actual reality either one may be present in high development in the absence of the other. In es-

sential characteristic, religion is sentiment; theology, idea. Religion is emotion; theology, reason. Religion is the response of the heart; theology, the logic of the head. Religion is the inward experience of God; theology, the intellectual account of it.[1] This sentiment of relation to God is, one might say, organic and vital, and as such is wholly independent of theological speculation about it. I recently asked a student in physiology by what two paths the digested food reached the general circulation. He replied in a double-and-twisted confusion of errors. But I feel sure that the young man's vital process of absorption into the capillaries and the lymphatics was not in any way embarrassed by his blunder in conceiving of it. Indeed, the peach in his cheek and the ashes in my own conspired in the hint that the process and the knowledge of the process were in no sense related.

Of course, what I have said of religion in general applies to the religion of Jesus in particular. We have learned that the Christian faith is not a doctrine or a system of doctrines, but a personal attachment. Such intellectual propositions as are associated with it are the contribution of reflection

[1] There is of course a cognitive element in emotion itself, and the religious sentiment—as all other sentiments—rests on a cognitive basis, but is not characterized by it.

upon that faith. The body of Christian beliefs, therefore, elaborated as it has been by the rational faculty, offers itself for rational review, and at every stage in the intellectual advance of the race requires the fresh authentication of fitting itself into the spirit and thought of the time. The sense of personal attachment to Jesus, on the other hand, is subject to no variations of culture-grade, time, or place. It is the same in the child and the philosopher; in Simon Peter and Tolstoy; in Europe and Cathay.

I have lingered upon this distinction in the hope that it might help us to observe, without prejudice and without dismay, the reconstruction of "the queen of the sciences" under the guidance of one of the youngest subjects of the realm.

I. THEOLOGICAL CONFUSION.

Mr. Leslie Stephen has remarked that religions die by being found out. A suggested modification of the remark is truer: religious beliefs die by not being found at home. A glance at the history of religions certainly makes the impression that religious beliefs incline to be unprogressive. Some are consciously so and by authoritative enactment. In 1840 Macaulay wrote: "Revealed religion is not a progressive science. . . A Christian of the fifth century with a Bible is on a par with a Chris-

tian of the nineteenth century with a Bible." [1] Thirty years later the Vatican Council by a formal decree raised this idea into dogma, and pronounced its anathema against the man who should assert that any dogma once announced by the church could be modified according to the progress of science. Even when not so formally encased, religious beliefs are yet shielded against invasion by their sacred reputation. Resting as they do for the great majority of men upon authority, they look backward from generation to generation, and tend to crystallize in rigid systems. Opinions in other spheres of life are not so predominantly traditional, but are, rather, personal acquisitions and take kindly to progressive modifications, as observation and experience, upon which they are based, are enlarged in their range. It turns out that the stationary religious beliefs are left far behind in the general intellectual advance of the individual or the nation, suffer serious discredit when the discrepancy is first noted, and finally, when their incompatibility with the wider knowledge is perceived, are dropped altogether. Witness the obscuration and banishment of the Olympian hierarchy with the rise of Greek

[1] See the "Essay on the History of the Popes," where several pages are given to the discussion of the thesis that theology is an exception to the law of progress which obtains in all other departments of knowledge.

culture. Witness the successive decline of Zoroastrianism, Dualism, Magianism, in ancient Persia, as the nation passed successively under the sway of new external influences. See how divinity sinks into the sand out of sphinx, colossus, and statue, before the light of that marble structure which drew to Alexandria the scholars and scientists of the world. The gods and goddesses to whom the Romans of an earlier day appealed in personal or national distress became for the poets of the Augustan age the mere toys of the imagination. Asia Minor was the arena where man with the new spirit which he had got beyond the Hellespont, turning back, first met his brother of the East. The old Phrygian cultus which reflected the low social status of the time of its origin, disappeared before the higher standards of the Greek and Roman civilization, and consequently no region gave a readier welcome to Paul's well-timed message with its opportunity for indefinite social development.[1] Let me add that the new Japan supplies us with a closely parallel case in the modern world. The importation of Western arts and industries, Western law, education, and science, involved of necessity the decay of the national theology which had grown up under far different conditions, and was in its very nature incapable of adjustment to the

[1] *Cf.* Professor W. M. Ramsay, "Contemporary Review," 64 : 572.

new *régime*. So that Japan is to-day in the extremely interesting position of "a nation prospecting for a religion."

Now let me ask whether anything analogous is discoverable in the case of Christian opinion. What is the distinctive mark of the Christian theology to-day? One will answer, the resurgence of traditional conceptions; another, the subjection of the Christian Scriptures to historical and textual criticism. A third will say, "No; theology is at present characterized by its appeal to Christ." "Progress," insists another; "reaction," another. Under these circumstances, perhaps I may be allowed to say, that, to one on the outside, the babel of voices within is the characteristic feature of present-day theology. I do not insist, for it is only echoes that reach the laboratory; and the confusion may be in the echoes only. But I appeal to you, gentlemen. As you have read Boyce and Clarke, Green and Wellhausen, Manly and Robert Horton, have you not felt the sense of uncertainty and uneasiness? When anxious questions about the deepest things in our nature and the most precious things in life come back to you with answers so various and so contradictory, have you not felt a chill spread through your heart and threaten its pulsation? Do you discover no hyperæsthesia in the theological nerve? Is there

no tension in the air? Is there no hint of rupture and dissolution? Did you ever hear of a heresy trial, in which no beauty of Christian spirit, no uprightness and power of Christian life, no ardor of allegiance to Christ, could atone for a lapse of opinion? What is a heresy trial but the concrete and categorical assertion of the deepening cleavage which is sharply dividing theologians into progressive and reactionary?

This confusion and dissonance is, I grant, distressing in some aspects, but the alarm with which it is regarded by many is not warranted. It does show that the religious mind is embarrassed by the discovery of discord in the family of its ideas. It does give occasion to the dissipation of stores of Christian energy needed to lighten the world's woes, reminding us of the river Gyndes, which Cyrus punished by diverting its stream into small canals to deprive it of its power. But for all this human strife, the word of God standeth sure. As Professor Royce says, it is only an example of shallow thought when either the destructive or constructive thinkers imagine that the battle is decided, if the world of the powers is judged in one way or another. Religion, he adds, is as independent of all that as Sirius is independent of the north wind.[1] It will help us if we remember

[1] Royce, "The Religious Aspect of Philosophy," p. 290.

that it is not the spiritual reality itself that is involved in this contention, but only our own notions about it.

Mr. Herbert Spencer has given us a useful formula for the progress of knowledge in all spheres. This progress, he says, shows three phases,—the unanimity of the ignorant, the disagreement of the inquiring, and the unanimity of the wise. Of course, absolute unanimity of informed opinion can never be realized among men except at the cost of personality and individuality, and that is far too heavy a price to pay for what would after all be at once a misfortune and a disgrace. But, whatever the final stage may be, if there be one at all, and however long postponed, there can be little doubt that theological opinion is now in the second stage—the disagreement of the inquiring. And surely, in its broader aspect, that is hopeful, has light in it. It means, indeed, the disintegration of the established system into its elements; and therein consist the pain and the peril of the time. But these elements have now as strong mutual affinities and as high combining powers as they had when they gathered themselves into that system from which they are just now released. This breaking up of a system is not the destruction of its elements; it is but the analysis which is the condition precedent of a new synthe-

sis. Truth, like the chemical elements, is indestructible, and once grasped is never lost. It may shift its place in the organized body of beliefs; it may be isolated for a time and bereaved of its companions; it may be suppressed and obscured, if that body tumble in ruins about it. But as certain as its own immortality, is its reappearance some good day with fairer colors in a nobler structure.

II. REORGANIZATION.

The history of superseded religious opinions to which I have alluded, has been repeated in the case of Christianity, except at the precise point where its superiority emerges. They were all appropriate to the grade of culture and social progress in which they took their rise. The same is true of Christianity. But they developed no power of adaptation to a higher stage, and having no grip on the general movement, they were stranded when the tides of life flowed on to other levels. Here Christianity parts company with them. The chief glory of Christianity, said a devout and rich-minded German theologian, is its mutability, by which he meant its power of adaptation. This it is which brought it out of the narrow limits of its Semitic cradle into the wide range of the Greek philosophy and the Roman State. By virtue of

this power it survived the shock of sixteenth and eighteenth century individualism, with its reversal of a thousand years of national and ecclesiastical history. It greets us to-day not merely unimpaired in its genius, but enriched in its content, for it has not stopped short with adjusting itself to new conditions as they have arisen in its path. It has appropriated the new conditions as its own proper climate, and incorporated and revised every historical body of teaching. As in its essence it meets every range of capacity, "providing for all the utmost they can take," so in its specific revelations and in its principles for the regulation of individual and associated conduct, Christianity anticipates the universal human need: "there cannot be Greek and Jew, circumcision and uncircumcision, barbarian, Scythian, bondman, freeman; but Christ is all and in all." This note of universality is the distinction of our religion, and an incontestible witness of its divinity. But let me not be misunderstood. Christianity is absolute, our apprehension of it is progressive. It does not change with the times; it is we who change. But as we take new points of view or grow in capacity, it does not disappoint us, but rises to our higher demands by new unfoldings of its original riches, which we did not know because our eyes were holden.

This divine power of expansive adaptation has met a fresh test in the case of modern biology. The current theology reached its crystallization stage before there was any science to infuse into the solution; its generalization was made up before all the facts were in, "for," says a writer of great acuteness and authority, "the invisible things of God since the creation of the world are clearly seen, being perceived through the things that are made." If this noble utterance means anything, it means that the study of the visible creation is one way of knowing God; that science bears important messages from him. Of course, no generalization can stand which does not take account of all the facts. Theology is now trying to make good this defect. The theological ferment and confusion of this end of the century is but the effort to restate the doctrine of God and man in conformity with the new knowledge. It was just as inevitable, and for the same reasons, as the reconstruction of psychology or ethics in the biological revolution; and I think we are ready now to admit that it was well. By and by another period of discussion and reorganization will follow with its surprises and its pains, but at its close our thought of God will be larger and truer as we think it in the wider horizons which the progress of natural knowledge stretches around us. It is

irrevocably written in the constitution of things that the letter must yield to the informing spirit, that the fuller thought shall find a fresh and adequate expression. The expansion of life does involve tension and rupture of the rigid forms which, while ample for an earlier stage, now limit and repress it. The period of transition is, indeed, painful and perilous, but that is how we grow from more to more. Let us rejoice in our growing apprehension of God, and when he pours us out the new wine of life, fetch us new bottles to receive it.

But you will ask me to specify at least the general features of the reorganization which is proceeding under our eyes, and indicate wherein the coming system will differ from the passing. The time allows me to speak of the central themes only,—our conception of God, of man, of the Bible, and of the spiritual world. On each of these themes two sources of knowledge are open to us,—the Christian revelation and the scientific revelation. And let me remind you that the Christian revelation itself anticipates and appeals to the scientific. For David testifies that the heavens declare the glory of God, day speaking it to day and one night to the next; and Paul, who cannot quite suppress self-gratulation upon his exclusive revelations, yet declares that external nature clearly manifests the everlasting power and divinity of God.

1. *God.*—The conception of God has been purified and ennobled by the revelations of science. The existence of God being given, the testimony of science is three-fold: God is one, God is near, God is great. From their first encounter with the rational view of nature in ancient Greece, Zeus and his bright retinue withdrew, and consistently down to to-day science has found for them and their numerous relatives of other regions no place in that system of things which to its apprehension has grown to be more and more a universe.

Science requires, moreover, that God reside within the natural order, supply to its ordinary processes both impulse and direction, and realize his own will in the uniform modes of its activities; larger than nature, if you please, but inter-penetrating it throughout, expressing his being and life in the forces that thrill through atom and star, infusorian and the mind of man,—nature his speech, law his thought, force the energy of his will. According to this conception, God is no longer a rare visitor from inaccessible depths outside nature, whose laws he must violate or suspend in order to get in. He is neither dead nor silent. The opposite notion, which, of course, survives into the new time, is clearly stated in a book on "The Silence of God," published in 1897, and said to be popular among English evangelicals. Here is a sentence or two

from it: "God, who at sundry times . . . spake unto the fathers, never speaks to his people now." Referring to the Armenian massacres of 1895, the author says: "Has God no power to check such crimes? . . . The far-off heaven where, in perfect and unutterable glory, God dwells and reigns, is silent. . . As for God, the light of the moon and stars is not more cold and pitiless than he appears to be." A single line out of Paul's Athenian oration anticipates the biological conception and proscribes that book: "He is not far from each one of us." But did he speak ages ago his last word of tenderness and light to man? Though the Infinite Father walk at our side, has he for our enlarging capacity and craving never a syllable more of answering revelation? Ask your own heart. Through its halls and chambers do you not catch even now reverberations of his voice? I fear he will not speak by you to this dull-eared generation, unless he first speak to you. You may report mechanically the gracious word which he spoke to others long ago, and that is well. But that flame-tongue which finds men under every disguise of race, temperament, and condition, the thought that is contagious, the emotion that takes fire in other hearts and shapes them to all high issues—these are the tokens of a fresh, immediate, and personal communication.

The scientific method of conceiving God has a third feature which I must dwell upon a moment. Goethe said that his first entrance into the city of Rome was to him a real new birth. And many a man has been born anew in the first discovery of this glorified universe as the work and word of God. Think of the universe of the monk Cosmas, of the sixth century, who was the geographical authority of the Middle Ages. In his "Christian Opinion Concerning the World," we are told that the earth is a flat parallelogram, to the outer edges of which the sky is glued and rises in four great walls which meet in a concave roof, and in the upper space the angels shove the heavenly bodies in their courses. Contrast the universe of the new astronomy, with its catalogue of above six hundred thousand stars, seven thousand of them packed in one cluster smaller than the moon's disk, all flashing through their prescribed pathways with precision and inconceivable velocity, and yet showing the same composition and structure and the prevalence of the same laws which make our atom of the earth so orderly and beautiful. I tell you, the God of the universe of Cosmas is far below the God of the universe of Couch-Adams and Pickering. And the vast world of fact and suggestion brought to light by the microscope has even still more elevated our conception of the infinite resources of

the Divine Energy which throbs in amœba as in sun, and of the Divine Wisdom which, without lapse of memory or error of adjustment, preserves the integrity and harmony of nature. As science has pushed out and out to infinite depths the limits of the universe, and illuminated its network of intricate relations with the light of unifying law, the conception of the Eternal Spirit, from whom it issued and in whom it holds together, has mounted to an elevation which, compared with its former outlook, is as Teneriffe to a coral reef.

2. *Man.*—What has science to tell us about man? The long, full story is told in biology, physiology, psychology, anthropology, geology, archæology. "Greek endings," these, said that wily dialectician, Bishop Blougram—

> Greek endings, each the little passing-bell
> That signifies some faith's about to die.

But we know now, rather, that the larger faith is at the birth.

I may specify, first, that the old antithesis of man and nature is now seen to represent but a fraction of the truth, for man is himself within the order of nature, its highest phase. And while he walks at the head of the procession of life, he belongs to the procession. Other contributions of science which have theological bearing are:

the unity of the races, which puts blood into that fine Christian metaphor "brotherhood of man"; the origin of disease and the relation of defective physical organization to crime; the physiology of habit; the law of heredity; the obscure movements of the sub-conscious personality and the laws of mental processes; man's essentially religious nature. In short, the progress of natural knowledge in the past forty or fifty years has effected a revolution in our conception of man, of his physical and intellectual constitution, and of his relations to the universe of living and lifeless things. Already this immense contribution has deeply colored the stream of theological discussion, and, both as a correcting and as an enlarging influence, it is beginning to appear in formal theological treatises.

3. *The Bible.*—Every religion claims to be a revelation, and its body of doctrine is explained as inspired. With the not very clear exception of the ancient Greeks and Romans, every race sufficiently advanced to have a literature has had a sacred literature in which its revelation is recorded, from the Hindus and their Vedas to the Salt Lakers and the "Book of Mormon." These present us, accordingly, with examples of the so-called "book religions." All primitive religions, on the other hand, though they depend no less directly upon inspiration for origin and maintenance, have

no record, and revelation is held to be direct and continuous. Where the revelation is of record, inspiration ends with the completion of the record. As the record advances in sanctity, it attracts a class of professional interpreters who sooner or later develop an elaborate theory of inspiration, and this in turn stimulates the study of the minutest details of external structure; the spirit abdicates, the letter takes the throne, and the mechanical record is itself held to be the revelation,

Faith in the thing grown faith in the report.

Professor Müller tells us that six hundred years before Christ the theologians of India had counted every verse, word, and syllable of the one thousand and twenty-eight hymns of the Rig-Veda, and they denied any human element in any part of their production.[1] I need not remind you that the Jews of the time of Christ and a little later regarded their sacred Scriptures in precisely the same way, setting down the middle word and letter of each book of the Pentateuch, counting every word and letter and how many times each letter occurs. A tradition was current among them that Moses was detained in the mount because Yahweh required so much time to make the ornamental letters of

[1] Max Müller, "Chips from a German Workshop," Vol. I., pp. 17, 18.

the Hebrew text. For many centuries the Christian Scriptures escaped this devitalizing treatment. During the Middle Ages the Fathers were quoted, so I am told, with almost as much reverence as the Scripture writers. But with the repudiation of the "infallible church," and with the watchwords, "The Bible the religion of Protestants" and "The Scriptures alone sufficient for salvation," the Reformation set the tendency to a verbal theory of inspiration which in the next generation culminated in investing the Bible with the mechanical infallibility which had been denied to the Romish church. Of course, the exigencies of controversy led to extreme positions, and it was not long before a formal literalism of conception became fixed, to be transmitted to our own day.[1]

In the hands of the latter-day scribes, whose numbers are now rapidly diminishing, the Bible is first reduced to order and system, with due dependence and correlation of parts. The individuality of the writers fades out, the circumstances of their utterances sink below the horizon, and the most remote in time and method and aim are brought to the same plane and made to explain one another. The Bible becomes a mosaic of texts wherewith to confound the enemy; and a little skillful shifting of the pieces will yield a widely different pattern. The

[1] *Cf.* Paterson Smyth, "How God Inspired the Bible," Chap. V.

example of this proof-text, utilitarian use of the Bible for the purposes of controversy is said to have been set by the authors of the "Westminster Confession." When that formulary was presented to Parliament for approval in 1646, it was returned with the requirement that Scripture be put to it. The task was undertaken and consumed nearly as much time as the construction of the Confession itself. And the makers of the "Philadelphia Confession," I do not doubt, were as good a round hundred of men as England and Wales had; but you will see that when they needed to build breastworks against the adversary and print their creed, they also were hard put to it to find suitable Scripture for some of their statements.[1]

Such a rigid theory of verbal inspiration—one might say of syllabic inspiration—makes the application of the universal canons of literary interpretation an impertinence here. What a harvest we are reaping from it even to-day! What a crop of disaster it yielded in the so-called conflict of science and religion! Our crop of religious fads and follies is, I fear, only beginning to come in, to the serious embarrassment of the churches. Here are faith-healing and Christian science, sinless perfection and the second blessing, and painful fig-

[1] *Cf.* Isaiah 8 : 20, offered in proof of the authenticity of the Hebrew Old Testament and the Greek New Testament.

uring over cypher passages in Daniel and the Apocalypse, the key to which is lost; Roman Catholic, Episcopalian, and Baptist ecclesiastical succession, the Second Coming, with elaborate programmes of showy pre-millenarian or post-millenarian dignities and triumphal processions, the return of the Jews to Palestine, and that crowning absurdity of Anglo-Israel. I know not how many more vagaries will spring out of this same hotbed to distress us and dissipate in endless controversy the Christian energy which ought to be saving the world.

Now, it may be admitted that eighteenth century skeptics made merry over the absurdities of this literalism, and that Coleridge on the part of the Christian community wrote an essay, published after his death in 1834, to correct them; but I maintain that, in the general "climate of opinion" which I have traced to the biological revolution, it is impossible for such a view of the Bible to survive. The theory of the Bible as "a collection of supernatural syllables" puts it outside of nature and violates the method of God's action so far as it has been discovered by us.

But we now have light not only on the structure of the Bible, but also on the aim of it. We see that neither historical nor scientific fact is the subject of revelation proper, for revelation is con-

cerned with that body of truth which is beyond ordinary methods of discovery. Its integrity as the revelation of God, therefore, would in no sense be impeached by the occurrence of either historical or scientific lapses. And the reconciliation book, like some of Sir William Dawson's, which was so common ten to twenty years ago, and which, with not a little distortion at times, forced history and the Bible, and science and the Bible, into mechanical correspondence—such a book is already out of date and superfluous, for historical and physical investigation is in one sphere, revelation in another. They do not come into contact, much less conflict, and to fear the effect of the one upon the other is, to use Doctor Martineau's illustration, like being uneasy lest the tangent should cut a segment out of the circle.

I need not dwell on the influence of the new view upon biblical interpretation. Intolerance, superstition, cruelty, must now make elsewhere their appeal for justification. Giving up witches is not giving up the Bible, as John Wesley thought, but freeing the Bible. If, in opposition to Martin Luther, we account for blindness and insanity in the language of modern medicine rather than as due to demoniac possession, we do not make void the Scripture ; we establish it. If we refuse either to burn or to brand the man who dares avow a

religious opinion at variance with our own, it is not because we hold the truth of Scripture less passionately, but because we have absorbed the spirit of Scripture more deeply. The more we press in into immediate contact with the primary thought—which is the real thought—of the Bible, the more it throbs with a very human and contagious vitality. The more clearly we perceive it to be a human record of God's revelation of himself through select channels of human experience, the more divine it grows, and the more universal and inviolable its authority.[1]

4. *The New Authentication of the Spiritual World.*—When Laplace made the formal presentation of his work on "Celestial Mechanics" to Napoleon, the latter said: "Laplace, they tell me you have written this large book on the system of the universe, and have never even mentioned its Creator." "Sire," replied the mathematician, "I had no need of that hypothesis." I suppose it is true that in the majority of books of pure science published in the hundred years since that day, there

[1] The rescue of Christian doctrine from materialistic conception and interpretation may be noted here. With the widening of our knowledge our conceptions have been forced upward into more spiritual planes, and the emphasis is transferred from the mechanical and the external to the internal and the vital. Compare the doctrines of miracle, the fall, inspiration, justification, judgment, and the future life.

occurs no reference to the spiritual world. Because it is thus apparently ignored by science, many have supposed that the general bearing of science was against it, especially when a leading representative here and there, like Du Bois-Reymond or Haeckel, has avowed the materialistic conception of the total reality. But this impression has no better warrant than has uncertainty about the canonicity of the book of Esther because it does not mention the name of God. The omission in both cases may be due, not to hostility to this realm of ideas, but to some other cause. Certainly in the case of science as such, which explicitly limits itself to the investigation of secondary causes,—the sequence of phenomena under the formula of the conservation of energy,—the omission is involved in its vocation and is wholly explained by it. That science harbors no implicit denial of what is called the supernatural, is sufficiently shown in the practical test of the personal attitude of scientists toward it. A recent census of scientific opinion has been made with care in Germany, where, according to the popular notion, men are least bound by traditional restrictions. The conclusion established by this census, as stated by Doctor Dennert who made it, is that "the majority of specialists in natural sciences are pronounced adherents of positive Christianity, or at

least of a theistic type of religious thought."[1] The probability is that where unbelief does occur among men of this class, it is the result, as so often elsewhere, not of their inquiries, but of preoccupation with their inquiries. Prof. Huxley himself has admitted that evolution is neither antitheistic nor theistic, declaring that it has no more to do with theism than the first book of Euclid has.[2]

But I think that we may now go further than this, and say that, while science in its strict capacity cannot affirm the spiritual world, its total impression in men's minds to-day thoroughly discredits materialism. The materialistic philosophy is dead, and curiously enough it is the so-called materialistic science which we have to thank for it. For, you will observe, the physical sciences have pressed forward with such vigor and success, and their methods have justified themselves so clearly with every stage of advance, that their impotence before the ultimate mysteries of matter, force, and life, has latterly created the presumption that the mechanical view does not exhaust the content of the universe; that, the physico-chemi-

[1] "Literary Digest," Jan. 28, 1899, which quotes "*Zeitschrift für Theol. und Kirche*" (Berlin), 9 : 1, *f.*

[2] F. Darwin's "Life and Letters of Charles Darwin," Vol. I., p. 556.

cal explanation failing at the crucial point, there is somewhat in the totality of things which is not amenable to physical and chemical tests. And so science has made straight the highway for the coming of the spiritualistic philosophy, which is now the dominant philosophy. The ultimate reality is no longer matter, but mind. The real world is the world of spirit. Moral and spiritual laws become natural laws. The supernatural is itself naturalized in the universe, not by degrading it to a lower plane, but by extending the sphere of the natural to include it.

And so at last the night of civil strife between the intellect and the heart breaks in a dawn of peace. Our highest intellectual demand is for simplicity and unity of conception, and accordingly the intellect postulates the external world and the uniformity of nature. Our highest moral demand is for the eternal supremacy of righteousness, and accordingly the heart postulates the super-sensuous world. The first postulate is the faith of science, the second is the faith of religion.[1] They seemed incompatible;

> But that blind clamour made me wise.

And we now see that the faith of science in the

[1] *Cf.* Royce, "Religious Aspect of Philosophy," Chap. IX., and Emma Marie Caillard, "Contemporary Review," Dec., 1899.

uniformity of nature can be realized only on the ground of the faith of religion in the spiritual world. Here again, as ever, the old truth issues from its trial wearing a new aspect, but no less precious to the heart because it authenticates itself to the intellect.

If you ask, What shall we think of our Lord himself in this time of reconstruction and reorganization? there is but one reply, and I care not whether you get it from John Stuart Mill or George J. Romanes. Said Mill, the logician: "Whatever else may be taken away from us by rational criticism, Christ is still left, . . charged with a special, express, and unique commission to lead mankind to truth and virtue."[1] And this is the witness of Romanes, the biologist: "One of the strongest pieces of objective evidence in favor of Christianity . . is the absence from the biography of Christ of any doctrines which the subsequent growth of human knowledge—whether in natural science, ethics, political economy, or elsewhere—has had to discount."[2] It is even so. The original uniqueness of Jesus remains. His spiritual leadership is unaffected by the progress of the race since his day. It was as clear in the Greek world of art and literature and the Roman world of law

[1] Courtney's "Life of John Stuart Mill," p. 171.

[2] "Romanes, "Thoughts on Religion," p. 157.

and social organization, as it was in the simple life of Palestine. It is as distinct and unassailable in the modern world of science as it was in the narrow horizon of the ancient Judaism. We still say what Charles Lamb said when a company of eminent men of letters were amusing themselves with the question how they would feel if the greatest of the dead should suddenly appear among them in flesh and blood. It was asked, "And if Christ entered this room?" Lamb's manner changed at once, and he stammered out: "You see, if Shakespeare entered, we should all rise; if *He* entered, we must kneel."

LECTURE III

THE UNKNOWN TONGUE

Unless ye utter by the tongue speech easy to be understood, how shall it be known what is spoken? for ye will be speaking into the air. . . If then I know not the meaning of the voice, I shall be to him that speaketh a barbarian, and he that speaketh will be a barbarian unto me.

Though I was free from all men, I brought myself under bondage to all, that I might gain the more. And to the Jews I became as a Jew, that I might gain Jews; to them that are under the law, as under the law, not being myself under the law, that I might gain them that are under the law; to them that are without law, as without law, not being without law to God, but under law to Christ, that I might gain them that are without law. To the weak I became weak, that I might gain the weak: I am become all things to all men, that I may by all means save some. And I do all things for the gospel's sake.

—*Paul, 1 Cor. 14: 9, 11; 9: 19-23.*

They who study the phenomena of living beings tell us that light is the great stimulus of life, and that the fullness of the life of a being or of any of its members may be measured by the variety, the swiftness, and the certainty of the means by which it is in touch with its surroundings.

—*Michael Foster, "Presidential Address," British Association, 1899.*

New times demand new measures and new men;
The world advances, and in time outgrows
The laws that in our fathers' day were best;
And doubtless after us some purer scheme
Will be shaped out by wiser men than we,
Made wiser by the steady growth of truth.

—*James Russell Lowell, "A Glance Behind the Curtain."*

III

We have now sketched the genesis of the biological revolution and noted some of its results. These results may all be conveniently summarized in a single sentence: We have gained a new point of view and a new method. The first has given us a new world, a new physical, a new intellectual, and a new spiritual world. Of course, the objective reality remains the same; but, you know, the observer half creates the landscape, as the reader half writes the poem. What one sees depends upon where one stands, rather than upon any special differentiation of the organ of vision. From the new station which we occupy we recognize the dear old features, but they show a new perspective and proportion; we discover harmonious relations bridging the cold vacancies of the former time. But old features in new relations acquire a new meaning and make a new appeal. Here is the new world in which we stand to-day, for the world is to us the sum of the relations which we perceive. The new method which we have gained from biology sets us new tasks in this new world, because it confers upon us a new equipment.

It remains now to consider the somewhat more practical matter of the preacher's attitude in this changed environment. Does he live the life of to-day, or of long-passed yesterdays? Does he speak with the "new tongue" which was designated at the beginning as the sign and authentication of his mission, or does he speak to the living world in a dead language? His message—does it die at the rim of his lip in "the unknown tongue"? If so, the renovation work of the revolution is not finished. It must not stop with the reconstruction of theology which I have suggested, but pass on to the reconstruction of the theologian also.

We are able to resist but feebly the impression that a crisis confronts organized Christianity to-day, a practical problem involving the gravest issues. Some will perhaps deny it and point to the triumphs of the gospel over pagan systems, to the high percentage of increase in the membership of some of our churches, and to the growing incorporation of Christian principles into the organic life of the world. Others will say, "Crisis or no crisis, hands off! the ark of God is safe in his own keeping." As to the first objection, it is to be observed that, while we must allow and rejoice in the facts cited in its support, these facts do not in reality touch the question at issue. The second objection wears the pietistic air, and looks

like the unwary indifference which one would least expect in the chosen custodians of the heavenly treasure. I have read that, among the gods and goddesses of Olympus who made themselves merry with nectar and ambrosia, there was one goddess who, although surrounded with mirth and standing in the safe presence of the father of gods and men, yet always wore a coat of mail and kept her spear in hand. It was the goddess of wisdom. We would best see all that is to be seen in the present situation, and be on our guard against whatever of peril may lurk in it.

Let me speak, then, of the present situation of organized, or institutional, Christianity. If the discussion fall into medical divisions, it is not because I wish to take the rôle or the responsibilities of physician to the case, but only for the sake of convenience.

I. SYMPTOMS.

1. On the threshold of the investigation we meet a clearly marked symptom. It is the formation of a religious public opinion outside the pulpit and the church. In the early Christian centuries the religious teaching which was formulated by councils was spread and established in the popular mind by the pulpit, beyond which, indeed, but few felt it necessary to go for the authorization of

religious opinions. This supremacy of the pulpit continued far into this century, and survives even now in such remote districts as have engaged the pen of Ian Maclaren and Mr. Barrie. Even within this last moat it is threatened, for

> Far back, through creeks and inlets making,
> Comes silent, flooding in, the main.

Certainly where the currents of the modern world flow, the preacher's original prerogative to create public opinion is already surrendered. Contrast the absolute authority of the preacher whom you meet in the pages of Nathaniel Hawthorne, for example,—authority extending even to the world of letters and of business,—contrast this intellectual and spiritual despotism with the severely hedged jurisdiction of to-day. The newspaper, the magazine, and the book have undermined the old authority and divided the realm. Indeed, it would seem to be more accurate to speak, not of division, but of usurpation, of the realm ; for the journalist and the novelist are heard to-day on religious matters with the consideration which in the former period was enjoyed only by ministers. Accordingly, it has seemed advisable to some men who had a message for their time, to leave the pulpit and take the pen of the editor or the novelist, in order to reach the public mind through the best accredited

channel. The privilege of the freest criticism of church and pulpit by this secular authority is assumed and allowed. Extravagance or folly or lapse is held to strict account before the bar of the outer public opinion. And so the pulpit, from being the highest thing in sight except the ceiling, has been gradually graded down until it stands on a level with the pew. Heine says somewhere that, when he first saw Goethe he instinctively looked for the eagle of Zeus at his side. This self-contained period feels no such instinct in the presence of the preacher. The throne is vacant, the eagle flown.

2. The second symptom to present itself is the unrest inside the church. It manifests itself in official and in lay circles, in the organism and in the individual constituents. In a former lecture we have dwelt sufficiently upon the confusion which prevails in theology.

More important, because more pervasive, is the religious doubt which distresses so many members of all Christian communions. What some one has lately called "the puny two-by-four infidelity" in the world without, we may leave alone until we have relieved the doubt of avowed Christians. To be sure, there are many, very many, who have passed the narrows and are out on the wide "sea of faith" now "at the full." And there are many

stolid, unreflecting natures which are described by Rabbi Ben Ezra, when he says :

> Rather, I prize the doubt,
> Low kinds exist without—
> Finished and finite clods untroubled by a spark.

But between these two extremes is a group of men and women, I fear a larger group than either of the others,—devout, generous, and alive in intellect and heart,—who are daily haunted by "the spectres of the mind" and lack the courage or the skill to face and lay them. They do not advertise their troubles, but for the most part coerce their doubts into a decorous silence. But in moments of close fellowship, when the barriers which habitually isolate even friend from friend melt down, when a window is opened into that *Binnenleben*, that buried life in which consciousness dwells alone with its secrets—among the revelations of such fine moments, the ghosts of doubt, thick-set like the sighing spirits in Dante's Limbo, are most apt to appear.

These doubts, which can be neither denied nor denounced, not only cloud the individual spirit and impede its free development, but they also deteriorate the Christian standard, waste the Christian energy, and cut the nerve of Christian activity.

3. But we must pass to note a third symptom of

the present situation, the tendency to desert the churches. A number of Christian denominations have been startled recently by the discovery that their total membership in the country is actually declining. The solicitude of the governor of New Hampshire for the religious condition of his State has attracted wide attention and not a little criticism. But within the week past the matter has been discussed by a careful observer who, though he employs less hyperbole, yet confirms the governor's facts, and goes so far as to say that they are true for the most part for nearly all the farming districts of New England. For example, Maine has two hundred and eighty-two pastorless churches, some of whose buildings now serve as cheese-factories and dance-halls. The common attitude toward religion prevalent over wide areas is said to be one of stolid indifference. Happily such a condition seems to us of this part of the country extremely remote ; but I cite it as a warning, for it is a culmination of tendencies some of which at least are visible among us. A tendency is to be judged in its catastrophe.

It is notorious that the grip which the church secures in the Sunday-school upon the young does not suffice to hold them beyond the time when they assume personal control of themselves. A Christian worker and man of large business in

Philadelphia said to me a month ago, that the problem of the city church is to hold the boys. "They slip through our fingers," said he. And what of attendance upon the services of the church? That appears to have declined generally. A recent census in Pittsburg, for example, showed that twenty-five thousand persons had given up the habit of church attendance. Put a fact like this alongside the high percentage of increase in church-membership (thirty-four per cent. in the closing decade, while increase of population has been only thirteen per cent.), and the question arises, Do the members gathered in drop out of the services later? Is the membership itself chargeable with swelling the ranks of the army of stay-at-homes?

4. I mention but one other general fact bearing upon the church crisis, and that is, the unimpeded progress of Christian sentiment and principles and of Christian activities, in spite of the defection from the leadership of the preacher and in spite of the comparative desertion of the churches. Have church and pulpit educated the community in right feeling and right conduct, and so made themselves superfluous? After giving the cue, have they withdrawn? Have they initiated and set a tendency which is henceforth capable of independent continuance? A group of refined and educated young men and young women will establish a col-

lege settlement among the poor and ignorant, without any sort of church affiliation or distinctively Christian leadership. Here is a man who denies your dogma and never darkens the church door, but yet surrenders himself in the service of others. Here is another man of the highest intelligence and Christian character, who nevertheless considers some things in even the "Philadelphia Confession" to be absolutely irrational and monstrous. Such a man will say with Romola, "God's kingdom is something wider than your party—else, let me stand outside it with the beings that I love."

II. DIAGNOSIS.

We come now to ask, "What is it that has made all this trouble? To what common cause or causes may all the symptoms enumerated be referred?" Of course, the problem is one of extreme complexity, as are all life problems. It presents numerous factors, and they are multiplied into one another indefinitely. We have probably not exhausted the symptomatology and for that reason are in danger of going astray in the diagnosis. But recall the several indications of disorder all together: a secular public opinion on religious matters, unrest inside the church, relative desertion of the church, and unimpeded progress of Christian sentiment and activities in spite of

the other symptoms. Now, whatever other causes, social or individual, conspired to produce this state of things, we shall probably agree that the two causes which I shall name exercised the dominant influence. In the last analysis the two may be resolved into one, but I speak of them separately for clearness' sake.

1. The strain of the divergence of the old dogma and the new knowledge. We are in the midst of the breaking up of life habits and thought habits, and the religious consciousness is both confused and sensitive. It vibrates uneasily between the old and the new, fearing disaster if it let go its hold of the old forms, and suspicious of the new conceptions lest they involve the loss of the old and still precious truth itself along with the molds in which it has been received. The varieties of individual temperament and training come into play. Your hot-blooded radical, with the enthusiasm of the fresh knowledge upon him, doubts the theological tradition to-day and scouts it to-morrow. Your conservative of the slower pulse can see nothing but utter wreck if this tide of theories of which the fathers never heard is not checked; and his spirit is stirred to an energy of denunciation proportionate to the vividness of his imaginary terrors. Here is the condition out of which spring divisions in the body of Christ,

disquieting doubts, and the decline of interest in the distinctive work of organized Christianity. But we may encourage ourselves with this reflection, that in the heart of this divergence lie the noblest characteristics of the human nature, the passion for God and the passion for truth. And I should despair of the race and deny "the glory of the sum of things," if these two passions could for long be at variance. The completion of their reconciliation in many an individual experience already is the prophecy of the general experience a little later.

2. The second cause of the present critical situation is the pulpit's attitude of resistance to science. It will require of us a more detailed consideration than the first required. I speak of what appears to be a common attitude; I beg of you to remember that it is not universal, for surely no man can recall with more pleasure than I do the hundreds of particular pulpits to which these remarks have no sort of application. The liberally educated section of the ministry, with occasional exceptions, has outgrown the attitude against which I warn you. Indeed, in the communities marked by the general progressiveness of the modern spirit, the survival of this adverse temper respecting science is now of rare occurrence. But this was not true of the period antedating 1875, during which the

seeds of our present trouble were sown; and in the fields to which most of you will go, the same seeds thickening in the theological air will meet you often, and the pressure will not be slight upon you to lend a hand in scattering more.

It is the fact of the unsympathetic attitude which invites our first thought. We shall discover it in two quarters—in pulpit utterances proper, of course, and in the religious press, which, except in rare cases, is under direct ministerial control, and, in all cases, so far as this matter is concerned, is little more than an expanded sermon to a larger congregation.

There is one section of the Christian community which is formally committed to the ultra-conservative position. It is by conscious determination always in the opposition. It is anti-mission, anti-Sunday-school, anti-education, anti-progress, anti-action. It reminds one of the society of the Amalgamated Sons of Rest, mentioned in "Beside the Bonny Brier Bush," who by their constitution and articles of faith were opposed to all work between meals. The good people to whom I refer say: "If it is new, it is not true; if it is true, it is not new." It is no matter of surprise that they find it impossible to keep their place in the modern world, with whose spirit and methods they have so little in common. This case is of especial interest

and importance, because the relation assumed to the modern world is logically consistent, and because the effect of that relation upon the denomination itself and upon the world is not complicated by foreign factors, and is now as open to observation and unmistakable as the result of a carefully conducted scientific experiment. Anti-mission Baptists make no appreciable mark on the face of current history and are rapidly dropping into extinction. The dependence of vitality upon adjustment to environment is a biological law of universal application, and the death of Hardshellism is due to precisely the same cause as that of the Siberian mammoth.

But other Christian teachers do not go to such extremes. They accept the modern world, barring a few of its features only. Some take the whole of it except Board organization, woman's work in the church, the young people's movement, and science. Others take it all except woman's work, the young people's movement, and science. Others admit the legitimacy of woman's work, but reject the young people's movement and science. Others ctill reject science only. Science is the great exseption. There are some, indeed, who make choice among the sciences of the modern world. They accept physics and chemistry, but biology !—they cannot away with biology. They agree that the

world is round, but they deny the other scientific fact that it gradually came to be what it is to-day. The stock quotation from the first letter to Timothy—"science falsely so called"—is unfortunately for them sadly mutilated in the Revised version. And that fact, if they have discovered it, gives additional justification of their general rejection of that version. The names Darwin, Tyndall, and Huxley, usually now do the duty formerly done by Voltaire and Paine, of illuminating and adding the flavor of learning to the reference to infidelity. If science is mentioned at all, it is with the air of apology or detraction. "If geology conflicts with the Bible, so much the worse for your geology." "Evolution excludes revelation. Such a theory we ought to hate with a perfect hatred." "The modern notion defies God whose existence it denies, and dishonors man by a brute alliance and the denial of the future life." A certain theologian who, of course, was not opposed to education and probably wrote his book by electric light, yet said of his "Dogmatics" when published: "It is good, all good! There's not a modern thing in it." You are familiar with the echo and elaboration of these opinions in the religious press.

Permit me to make two or three remarks about this attitude.

In the first place, let me say that it is due to

misconception of the content and implications of science. You rarely observe it except in the case of those whose educational period antedated the modern view, or who were otherwise deprived of the opportunity of scientific training.

Secondly, it fails to make the palpable and fundamental distinction between the materialistic view and the theistic view, and so sets a false and injurious alternative—"Bible or science," "Moses or Darwin." In reality it is the philosophy of materialism that is feared, not science. "Arithmetic," says Sidney Smith, "is the natural cure for the passion of fear. If a coward can be made to count his enemies, his terrors may be reasoned with." Now, we have already seen that materialism no longer has standing as a philosophical system. Darwin was no materialist,[1] neither was

[1] It is an intolerable thought that men and all other sentient beings are doomed to complete annihilation after such long-continued progress. . . Another source of the conviction of the existence of God connected with the reason and not with the feelings impresses me as having much weight. This follows from the extreme difficulty, or rather impossibility, of conceiving this immense and wonderful universe, including man with his capacity of looking far backward and far into futurity, as the result of blind chance or necessity. . . I cannot pretend to throw the least light on such abstruse problems. The mystery of the beginning of all things is insoluble by us, and I for one must be content to remain an agnostic.—*Charles Darwin*, "*Life and Letters*," *Vol. I., p. 282.* In my most extreme fluctuations I have never been an atheist in the sense of denying the existence of God.—*Ibid., p. 274.*

Tyndall,[1] nor Huxley;[2] and if the premises of the "Synthetic Philosophy" do, to many minds, involve materialistic conceptions, Mr. Spencer himself, in the preface of "The Data of Ethics," seems to perceive the intellectual opprobrium of the philosophy of mud and at least intimates that the term "materialist" would not properly describe his position.[3] You may count on the fingers of one hand the scientists of corresponding distinction who hold the anti-theistic view. I say this, not

[1] The passage from the physics of the brain to the corresponding facts of consciousness is unthinkable. . . I do not think the materialist is entitled to say that his molecular groupings and motions explain everything. In reality they explain nothing. . . If you ask him whence is this matter of which we have been discoursing—who or what divided it into molecules, who or what impressed upon them this necessity of running into organic forms, he has no answer. Science is mute in reply to these questions.—*Tyndall*, "*Scientific Materialism*" *in* "*Fragments of Science.*"

[2] When materialists stray beyond the borders of their path, and talk about there being nothing else in the world but matter and forces and necessary laws, . . I decline to follow them.—*Huxley, in a paper before the Metaphysical Society, quoted in* "*The Forum,*" *20 : 30.*

[3] *Cf.* further the following: Speaking for myself only I may say that, agreeing entirely with Mr. Martineau in repudiating the materialistic interpretation as utterly futile, I differ from him in this, that while he says he has found another interpretation, I confess that I cannot find any interpretation; while he holds that he can understand the power which is manifested in things, I feel obliged to admit, after many failures, that I cannot understand it.—*Herbert Spencer*, "*Mr. Martineau on Evolution,*" *in* "*Recent Discussions in Science, Philosophy, and Morals.*"

because such a question can be settled by lists of names, but to show that the theistic view of evolution is demonstrated to be tenable by the fact that it is actually held by the majority of the naturalists of the world.

But another bugbear confronts the preacher and grows to formidable proportions in the dim light through which it is seen. A good and true man was talking to me in the laboratory about these matters. As he turned to go, he said, "Well, my grandfather was no tadpole!" As if a man could select his ancestors, and nature were under necessity to respect his choice! Is it not singular that direct origin from clay itself carries no impeachment of dignity, but if the clay is once elevated into living forms and these are interposed in the line of derivation, they impart to it an ineradicable taint? Let me give you a piece of child philosophy, which, so far from being childish, is just the silver bullet to kill this ghost. A bit of four-years' beauty turned suddenly to me the other day with the light of a fresh discovery shining in her face, and said: "Did you know I was made out o' dirt?" I pinched gently the velvet of her hand and cheek and said: "This does not look like dirt to me." With the air of surprise at my dullness, she replied: "Well, I *was* dirt, but I j'owed to meat!"

I have now to remark that this hostile attitude toward science is irrational. Of course, it results from the impression that science clashes with certain religious opinions, and in the warmth of concern for these, the impression itself escapes any real first-hand examination. What is science? Science is the translation into human speech of the thought of God expressed in nature. It is the ordered body of fact so far as human faculties are competent to discover and report it. If this report does not conform to truth, where will truth be found, and how? The man who criticises and denies the facts of science, denies man's ability to discover truth, and therefore discredits his own criticism.

But, you say, no man of intelligence denies the facts of science. It is only the theories of science that excite the hostility of many pulpits. But what are scientific theories? They are the general principles derived by induction from the observed facts of nature. The doctrine of gravitation is a theory. The doctrine of the ether, "the nominative case of the verb to undulate," is a scientific theory. Now, I do not say that a scientific theory upon which the scientists of the world agree presents itself to others for acceptance with quite the same authority as a correspondingly attested fact; but I do maintain that the presumption behind it

is so strong that no man whose work lies in a non-scientific sphere is warranted in rejecting it because it is supposed to collide with certain of his religious opinions. The only rational course open to him is, so far as he is able, to make the necessary adjustments in his system of opinions, under the conviction that the kingdom of truth is one, and that God cannot speak one thing in one section of it and a different thing in another.[1] But, maybe this is not God's world! Perhaps an enemy hath done this! Or is it a chance-sown seed in the illimitable night, without purpose, without law, and making no appeal to the intellect of its highest product? Maybe there is no intellect to appeal to!

The preacher's hostility to science is not only irrational, it is also ineffectual. It presents no obstacle to the progress of science, for it is too remote from the line of progress to come into con-

[1] Science we must treat as absolute mistress of her own domain. Of the world as a whole, of the eternal as such, of infinite past time, of the inner truth of things, science pretends to tell and can tell nothing. Nor does science invent, nor can she prove, her own postulates. But in the application of her postulates to the facts, in the discovery of particular laws, science is almighty. To doubt her capacity as highest judge in this field is flagrant contempt of court. Science is just the Infinite Thought as far as it is yet by us realized in the facts of nature. *A priori* we can realize nothing about finite facts, save that they must be *capable* of rational comprehension.—*Royce*, "*Religious Aspect of Philosophy*," *p. 461.*

tact with it, much less to impede it. Nor can that attitude permanently check the spread of scientific opinion. It must yield, as it has been compelled to do often before. Andrew D. White's large work on the "History of the Warfare between Science and Theology" is the record of such adjustments from the first days of the Copernican astronomy down to the present.

And may I add, that this hostile bearing is unwise? Young men and young women in increasing numbers are coming into the pews directly from the chemical, physical, and biological laboratories where they have imbibed the scientific spirit and acquired reverence for the laws of nature as being God's laws. Certainly for these and many more, the slur upon science and men of science has but one effect—to discredit both preacher and message. More and more, as knowledge grows and unrolls "her ample page" before the eyes of the average hearer, opposition to science will turn the book-board into a stone wall reaching to the ceiling, and the preacher will be on one side of it and the congregation on the other. And it will not be long before to this separation the congregation will add the wall of the house.

Here again, in the pulpit's unfriendly attitude toward science, we find an explanation of the growth of public opinion on religious topics in-

dependently of the pulpit, the confusion of opinion in the pew, and the tendency to drop out of relation to the church altogether.

III. THERAPEUTICS.

I pass now to a pleasanter part of the discussion. What is to be done to correct the symptoms? But this is not enough. We wish to do what the colored physician meant, though the language of his advertisement was not felicitous. He said his plan was first to cure the disease and then eradicate the system. What is wanted is the removal of the root out of which the symptoms spring. You already anticipate the appropriate treatment. But there are two classes of patients. There is first the class of preachers in whom the *odium scientiæ* has become chronic. What they need is change of air, an ocean voyage. They want to go abroad. Let them hook themselves on in the nearest places as best they may to the current thought of the world. They must keep open house to the truth, and give it, when properly accredited, a cordial reception even though its face be new and its tongue the language of science. For there is no infidelity so deep or so dangerous as "the fear lest the truth be bad."

The other class of patients to whom I referred includes the preachers who are yet in the prepara-

tory stages of their career. For these, prophylaxis, or prevention, is the proper treatment. In view of the great importance of this class—the future is in its hands—I beg that you delay with me to consider in more detail the training of the preacher which the new time seems to demand. I do not forget that I am offering to speak of the drama in the presence of Shakespeares. I do it only with the sincerest deference to expert opinion, and only for the purpose of presenting the point of view of the man in the pew.

Let me first remark, in general, that the mission of the preacher is primarily a practical one, and his technical training should not lose sight of this fact. The details of the history of dogma, of the rise and refutation of heresies, appear to a layman to receive exaggerated attention in view of the complexity, tension, and distress of the modern world, in which the minister will do his work and for which this history of Christian metaphysics supplies but little precedent. Systematic theology is serviceable, provided it is not too systematic. The service which it renders in clearing up one's opinions about God and man and their relations to each other is, I fear, subject to heavy discounts on the score of its cold-blooded dissection of the living Scripture for props and glue, its tendency to freeze into a rigid system which permits no

adaptations to the world's growing knowledge, its all but certain usurpation of the respect and allegiance due to religion itself alone, and yet again on account of the incubus of authority with which it weights the student's intellectual and spiritual progress. And the fringes of this ephod of theological learning, which are "for glory and for beauty," such as patristic Greek and Latin, Chaldee and Arabic, agree thoroughly with its pattern and color-scheme; they have their place and function. Only they seem to squint a trifle with one eye toward the seclusion of a self-centered scholarship, and with the other toward the magnification of the letter of Scripture and the restoration of the authority "of them of old time." And one cannot but be glad to see beside these studies—golden bell alternating with pomegranate—such vital and pressing subjects as social problems and institutions, the history and methods of mission work, and the bearing of the generalizations of science upon Christian truth.

Now let me remark that the preacher's training ought at some stage of it to provide for the cultivation of the scientific spirit. That spirit has three characteristics,—sympathy with the phases of external nature, in which Jesus anticipated the modern world, reverence for truth, and acceptance of the supremacy of the law of cause and effect.

It would be profitable to discuss the influence of this scientific spirit in the preacher's teaching and work, but I have time now only to remark that it is not best acquired by the reading of scientific books, for these detail results, but rarely communicate spirit. You remember the result of David Copperfield's reading to Peggoty an essay about the crocodile. He says that when the reading was over she had a cloudy impression that the crocodile was a kind of vegetable. The facts of nature must be got directly from nature, and the scientific spirit grows up in the actual presence of nature in field or laboratory. If, therefore, I have not exaggerated the importance of the biological point of view, the technical training of the preacher ought either to presuppose or provide a course in the science of biology.[1]

[1] It is, of course, important that the preacher should know the broader features of the science of his time, the general results of scientific inquiry. And there are now many books which present them in clear and attractive style. Such knowledge will save him from the inconsiderate opposition of which we have complained, will put him into sympathetic relation to a large and important section of current life and thought, and will supply to him a wealth of illustrative material closely akin to his proper theme. The Bible opens with a cosmogony, and that which distinguishes its later writings, as the fourth Gospel and the Colossian and Philippian letters, is the atmosphere and impress of the universal and cosmic relations of Christ. In its spiritual aspects, life is brought to light in the gospel; in its physical aspects, life is

I have but one other suggestion. Be on guard against the dangers of specialism. Seminary training, being technical, is of necessity specialist training. I am not sure that it might not be broadened by the addition of a course of literature, especially in an institution like this, which receives men of all grades of educational opportunity. But it is your own private studies in non-theological realms that I have now in mind. These will not only preserve your mental poise, but keep you in touch with the human environment which you wish to mold to righteousness. I have read of a German mathematician who devoted ten years to the study of the regular polygon of sixty-five thousand five hundred and thirty-seven sides. I do not know why he stopped the study at the close of the ten years, but it is not unlikely that he had no mind left to study with. The man of one book does not know that book. He certainly cannot interpret it to a generation whose intellectual life and interests are chiefly absorbed in a varied and voluminous literature.

The heart, not the brain, is the organ of religion. As Pascal says, it is the heart which feels God, and not the reason. The appeal of Jesus is not made to the logical faculty, but to feeling and

brought to light in biology. The two revelations extend and supplement each other, both being God's

imagination. And these are our highest powers. The reason analyzes, excludes, restricts; the imagination escapes all limitation, embraces, creates. Imagination takes wing where reason's clambering stops. Beyond the veils of mystery that entangle and thwart the reason, imagination presses to take God's message, and so philosophy says that religion is *revealed.* Comte's so-called "religion of humanity" was foredoomed to barrenness as being only a set of rationalized principles for the regulation of conduct; and its power to attract men quite free to choose may be seen in Prof. Huxley's remark that he would as lief worship a wilderness of apes. We feel what we do not understand. We are swayed by forces which the intellect denies. We bow before gods whose names we cannot call. Faith is not conviction, but response; not belief, but a following; not assent to intellectual propositions, whether about God or Christ or the Bible, but the heart's answer to the appeal of the unseen realities. "The venture of faith" is upon imagination's wing.

The deep religious significance of the great poets is, therefore, precisely what we should expect. For their proper sphere is the range of feeling, and imagination is the wand of their power. Like many another note of God's universal harmony which we call nature, poetry spurns the

bonds of logic; it is hard to define. But I suppose its most essential and distinctive mark to be its imaginative accent and appeal. It is imagination calling to imagination through the warm atmosphere of emotion. The great poet is first of all a seer, and that divine gift of vision consecrates him God's prophet. Says Browning's glorious "Abt Vogler":

God has a few of us whom he whispers in the ear;
The rest may reason and welcome: 'tis we musicians know.

So does the poet know. He knows more of God than your theologian; he knows more of nature than your scientist. Asa Gray could have instructed Emerson in the morphology and physiology of the rhodora, but it was to the poet, not the botanist, that this wild "rival of the rose" revealed its life secret. A stanza of Wordsworth is worth an atlas of topographical surveys. So of the things of the spirit. Theology is the more or less successful effort to define and set in order the divine word whispered in the ear of the seers of the race. I have said so much about these seers in order to justify the advice that you press often beyond the mechanical system of the logician to catch the immediate and living word of the poet. It will serve you for knowledge, for training, for inward quickening, and for outward adjustment. You will

learn in "Macbeth" somewhat of the conscience which is not in McCosh or Jonathan Edwards; of the depth of sin and the terrific awakening of remorse in "Siebald and Ottima," which you will not find in Julius Müller; of the daring reach of human aspiration for the fruit of knowledge in "Faust" or "Paracelsus," which no "doctrine of the fall" will so much as hint. And "Saul" will teach your heart somewhat of the essence of the Incarnation for which you will search in vain all Dorner's volumes on "The Person of Christ." To be quite frank, I will trust Browning's instinct before Calvin's logic.

If it be objected that the divine word on the poet's lip is too vaporous to have value as knowledge, it may be answered that God seems to have been content to leave it so. Not a philosophical, but an emotional and imaginative race was the selected channel of its communication. Accordingly, the Bible has no definitions. Truth there is not crystalline, but in solution. It gives us, not metaphysics, but men; not logic, but life. And this was well, if we may judge from the history of our Western passion for definition. Not an inconsiderable part of the energy of Christendom has been expended in disputes about words which, when settled at all, have been settled by majority vote, punctuated now and again with the great black

period of the charred objector. In spite of this warning of dissipation and perversion in the name of Christ, the tyranny of the logical faculty still terrorizes the Christian realm and drives off the outsider. The implements of its torture are not exactly the same as in the former time. For chains and flames it commonly employs to-day the vitriol of invective; but the choice is only a matter of taste, which happens to require now the refinement of cruelty. Stephen Allard says: "Nature had set two souls within me; but the artist voluntarily died, that his brother the scholar might live." I think that the theologian has sometimes murdered the man within him, to make the logician supreme. I tell you this is the reproach and scandal of Christianity. The intelligence of the world is growing too acute and wide, and the moral sense of the world is too much heightened and cleared by the teaching of Jesus, to submit to the usurpation and arrogance of an alien logic. If your message essentially involve subscription to the items of a particular theological formulary, the world, which is fast winning its emancipation from authority, will not so much as hear your formulary. If you insist, it will bid you go, and take your religion along with your theology. And Christ will be crucified afresh by the hands of his friends.

But I said that the poet's word was serviceable

for training as well as for knowledge. If there is one gift for which God looks when selecting his preacher, I think it must be the gift of imagination. Without it you may be a priest and officiate in the forms of public worship, or a pastor and put in play at the fireside the attracting power of a pure life, or a director of the activities of a church, or a theologian, or yet again a religious lecturer or essayist; but an effective preacher with the appeal of God on your tongue, you cannot be. Now, imagination, like any other faculty, grows if it be fed; and I know no food for this Pegasus of the mind like the poets—I do not mean the popinjays of rhyme, but the great masters of song who enrich and glorify our literature.

The preacher needs, moreover, repeated quickening and renewal in the inward part of him. He must be saved from the deterioration of routine. His intellect needs the accumulating dross of its commonplace tasks wiped off the face of it ever and anon, that it may be bright. After expenditure he must open connections with rich sources of income. Otherwise, with the exhaustion of his reserve, he will lose his power to get it again, and that is the last disaster which he can suffer. The first symptom of it is the rise of the old sermon chest often in memory; the second, reliance upon it; and the third, change of pastorate after two

years. I commend to you the cultivation of the poets as an antiseptic against this intellectual decay. I feel assured of that preacher's intellectual and spiritual vitality who is on intimate terms with Tennyson and Browning and Wordsworth and Shakespeare.

And now I have done. After this glance at the religious life and opinions of our revolutionary period, I hope each one of you can say, as I say with all my heart :

> When I have passed a nobler life of sorrow ;
> Have seen rude masses grow to fulgent spheres ;
> Seen how To-day is father of To-morrow,
> And how the Ages justify the Years,
> I praise thee, God !